

Incident Management and Work Zone Patrols

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Purdue Road School**



Incident Management



What is Traffic Incident Management (TIM)?

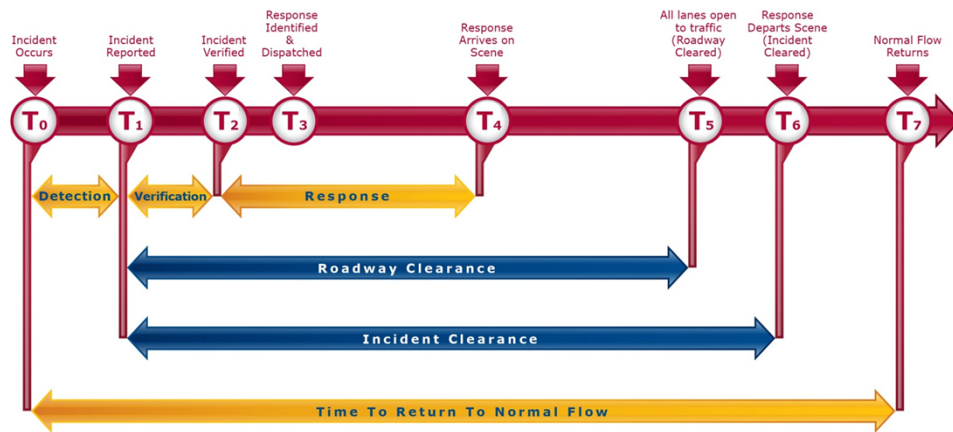
The planned and coordinated multi-disciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible.



Incident Management Team



TIM Timeline



The Crash Pyramid



Responder Safety

The overarching reason for clearing roadways quickly is **YOUR SAFETY!** On average:



Each year, about 5 firefighters are killed in struck by incidents.



Each month, about one police officer is struck by a vehicle and killed somewhere in the US.



Each week, a tow operator is killed doing their job on our roads.



Every three days, a worker is struck and killed in a roadway work zone.



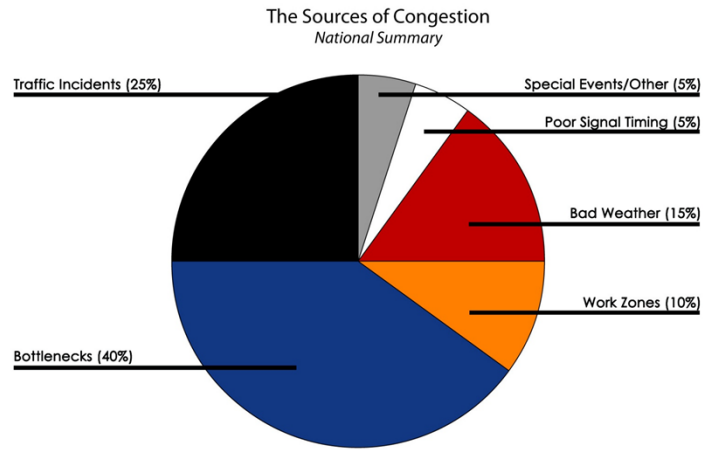
- Emphasize that the overarching purpose of TIM is **safety**. The safety of responders, those involved in incidents, and those approaching and passing incidents.
- According to the National Law Enforcement Officers memorial, over the past 24 years, a dozen officers are killed each year on average in struck by incidents.
- The Fire Memorial in Emmitsburg, MD tells us that statistics from 2010 are typical for firefighter struck by deaths, about 5 per year.
- The Towing memorial foundation in Chattanooga, TN tells us that about 60 towers are struck and killed each year.
- Statistics from the Dept. of Labor demonstrate the dangers of working near roadways in highway work zones.

Congestion and Travel Reliability

- Traffic congestion costs American motorists \$87.2 billion per year in wasted time and fuel costs
-More than \$757 for every U.S. traveler.
- The total amount of wasted fuel topped 2.8 billion gallons
-24 gallons of gas for every traveler.
- Americans spend 4.2 billion hours a year stuck in traffic.
- Nationally, in 2007, the average driver languished in rush-hour traffic for 36 hours
-Nearly one full work week for every traveler.



Source of Congestion



TIM Planning for Work Zones

- **Increase law enforcement presence**
- **Inter-agency communication**
- **Contractor provided towing/recovery service**
- **Emergency closure points**
- **Incident management training for construction personnel**
- **Use of construction equipment**



Benefits of TIM Planning

- **Institutional bonding**
- **Communications**
- **Rapid response**
- **Appropriate resources**
- **Responder safety**
- **Maximizing traffic flow**
- **Quick clearance**



Why is Traffic Incident Management Important?

- **The likelihood of a secondary crash increases by 2.8 percent for each minute the incident continues to be a hazard.**
- **Approximately 25 percent of all traffic crashes are secondary incidents.**
- **Improves safety for motorist, responders, and highway workers.**
- **Increases efficiency of roadway system**

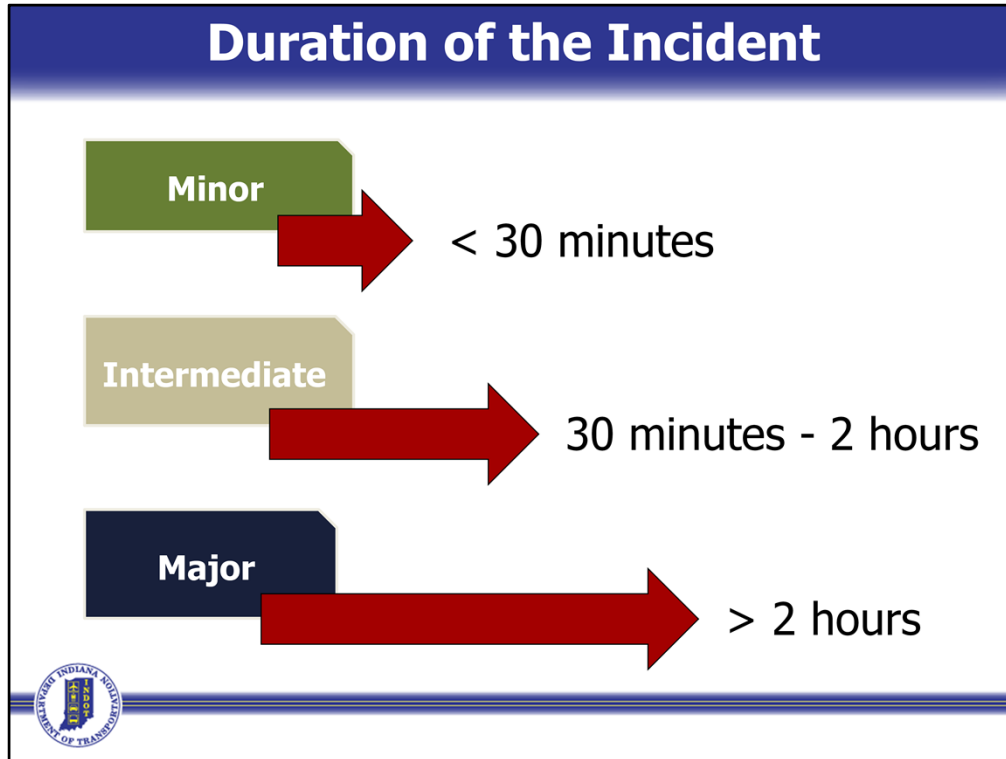


Communication

Accurate, clear **communication**, means responders arrive at the scene sooner and **clear** the incident **sooner** meeting **quick clearance** goals and improving **safety** for themselves and accident victims.

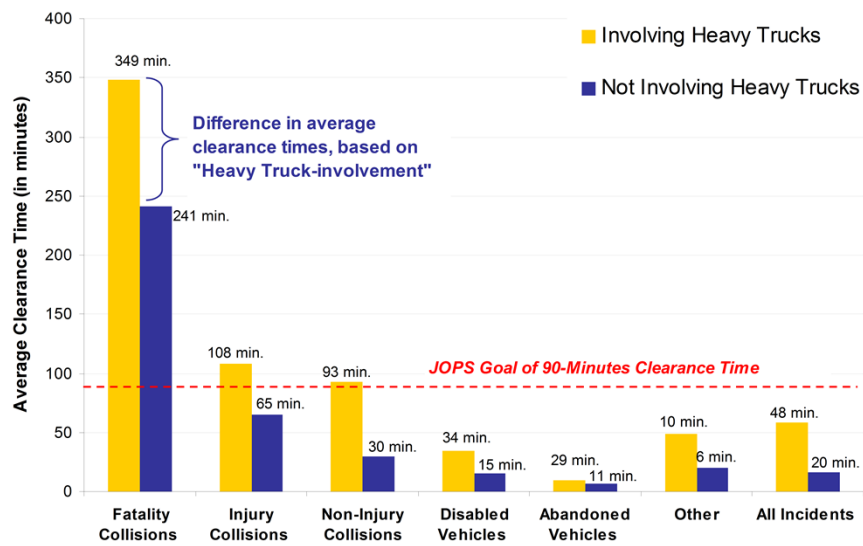


- Reinforce clarity in communications.
- Accurate, clear communication, means responders arrive at the scene sooner and clear the incident sooner meeting quick clearance goals and improving safety for themselves and accident victims.



- The MUTCD defines traffic incident duration as depicted in the slide. Each type has different requirements.
- Emphasize the importance that estimating incident duration has on setting up temporary traffic control devices, clearing the incident, and restoring travel flow.

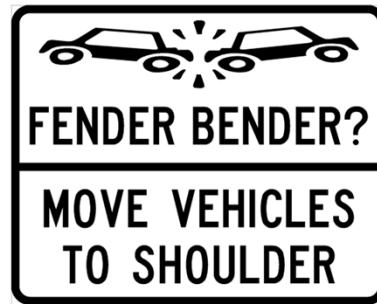
Heavy Truck Clearance Times





Indiana Laws

- **Move It Law**
- **Move Over Law**
- **Hold Harmless**



INDOT - Traffic Management Center

- **Coordinate interagency communications between responders and agency dispatch centers**
- **Assist in incident detection and verification**
- **Program and operate electronic dynamic message signs**
- **Monitor closed-circuit television cameras**
- **Provide traveler information to the public and media**
- **Dispatch Hoosier Helpers as required**
- **Creates recordings and continually update HAR 530 AM**

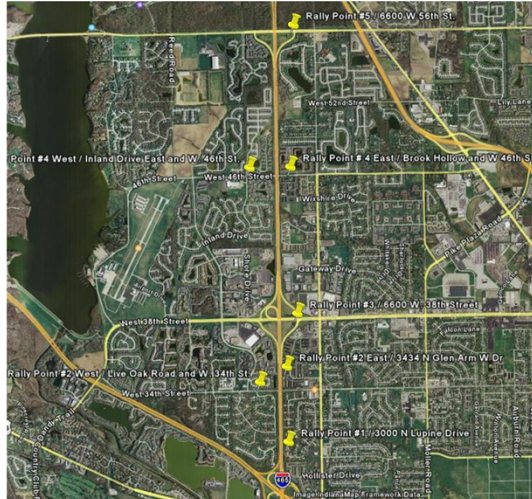


Incident Management Special Provision

- **Maps**
 - **Detail open/closed travel lanes**
 - **Emergency vehicle access points**
 - **Rally points**
- **Meeting held prior to each phase change**
- **Identify road closure points**
- **Locations of arrow boards and barrels**



Rally Points



When it comes to work zones, even the smallest mistake can be deadly.

Just take a look at these numbers:

- Nationally more than 1,000 people die in work zones each year. That's nearly three a day!
- Every year, more than 25,000 people are injured in our nation's work zones.
- More than 95 percent of those injured in work zones are motorists.
- It only takes 2.03 minutes longer to drive 45 mph vs. 65 mph through a 5 mile work zone.



Work Zone Patrols



Purpose

- **Speed control**
- **Enforcement**
- **Traffic Incident Management**
- **Traffic control**
- **Increased visibility/motorist alertness**
- **Queue car**



Information

- Projects selected
- Algorithm/Selection Process
- In 2012 INDOT PSO funded 47 projects
- Types of enforcement (Moving, stationary, sitting w/workers)
- INDOT maintenance zones
- Where does the money come from???
- Changes to Indiana Code 9-21-5-11



Project Selection

**Projects for consideration are submitted each
December by the District Construction
Engineers from each of the six
INDOT Districts.**



Variables

- AADT
- Project Length (Lane Miles)
- Construction Cost
- District Priority
- Crashes
- Injuries
- Fatalities
- % Trucks
- Work Zone Speed
- Degree Curvature



Additional Variables

- **Grade**
- **Change in Lane Width**
- **Exits Open**
- **Work Zone Lane Width**
- **Work Zone Shoulder Width**
- **Lanes Shifted**
- **Feet Shifted**
- **Positive Protection**
- **Work Zone Safety Preference Factor**

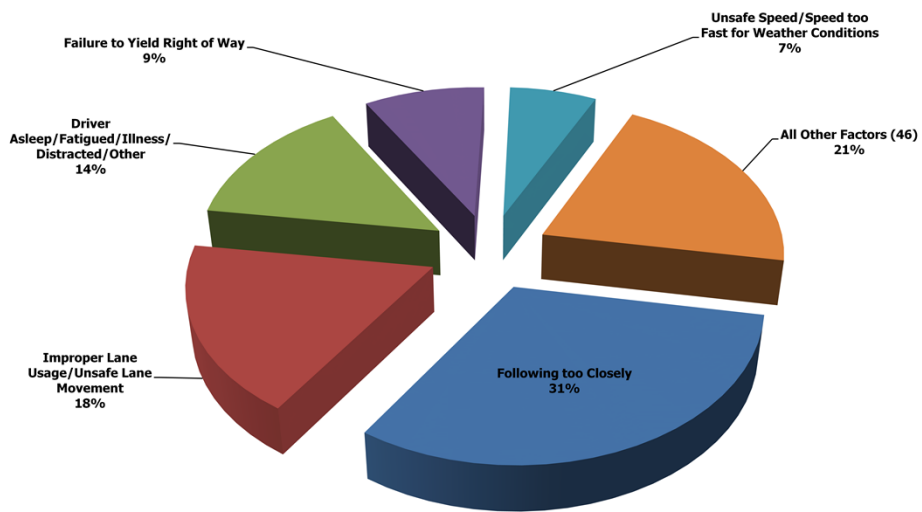


Work Zone Collisions

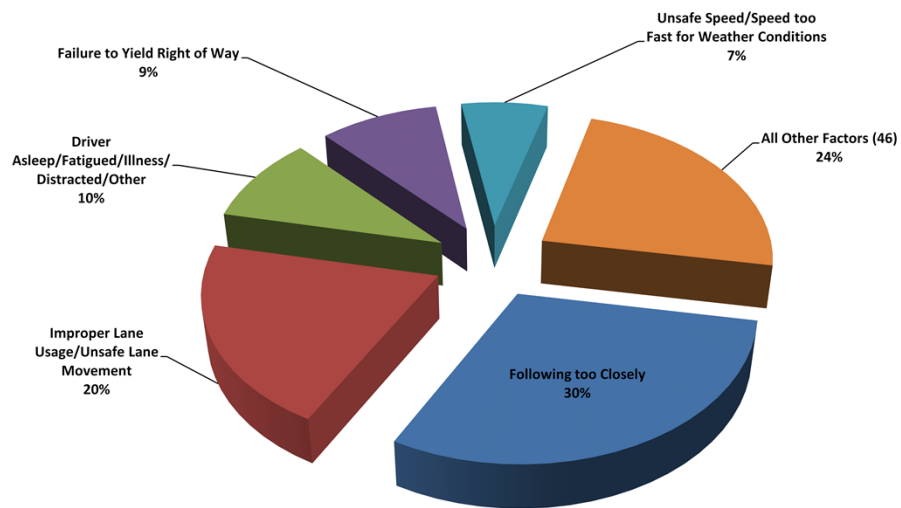
- **In 2012**
 - **Total Collisions 1931**
 - **Total Fatalities 8**
- **In 2011**
 - **Total Collisions 2245**
 - **Total Fatalities 14**
- **In 2010**
 - **Total Collisions 2521**
 - **Total Fatalities 12**



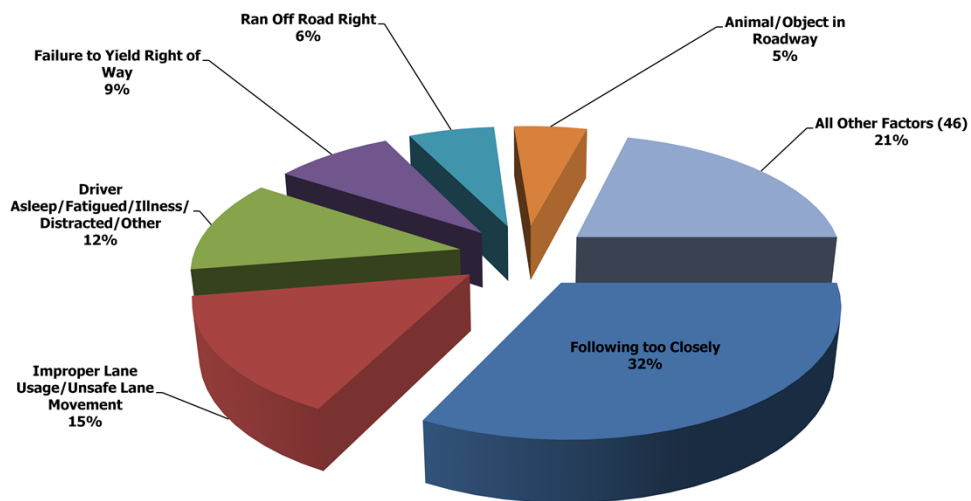
2010 Work Zone Collisions by Primary Factor



2011 Work Zone Collisions by Primary Factor



2012 Work Zone Collisions by Primary Factor



Pickup In Construction Zones (PICZ)

- **Three trucks released**
 - **Summer of 2011**
- **In 2013 construction season**
 - **Six additional trucks**



Work Zone Collision Data

1st Jan 2012 to 31st Dec 2012	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total Collisions	63	48	101	150	199	221	225	247	216	257	146	58	1931
Property Damage	55	38	80	113	160	174	178	208	169	215	116	45	1551
Personal Injury	8	10	21	37	39	45	45	38	46	42	29	12	372
Fatality Collisions	0	0	0	0	0	2	2 (3)	1	1	0	1	1	8 (9)
1st Jan 2011 to 31st Dec 2011	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total Collisions	111	127	132	183	241	232	235	224	251	237	168	104	2245
Property Damage	98	111	111	154	213	194	185	182	211	195	146	83	1883
Personal Injury	13	16	21	26	28	35	50	38	38	41	22	21	349
Fatality Collisions	0	0	0	3	0	3	0	4 (5)	2	1	0	0	13 (14)
1st Jan 2010 to 31st Dec 2010	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total Collisions	129	120	162	221	269	295	303	287	248	282	220	146	2521
Property Damage	107	108	134	192	225	244	250	231	197	241	184	122	2100
Personal Injury	22	11	27	28	42	50	52	55	51	40	35	23	411
Fatality Collisions	0	1	1	1	2	1	1	1 (2)	0	1	1	1	11 (12)

Source: ARIES - Crash Reporting System
 All INDOT Routes (Interstates, State Roads, & US Routes)
 With Construction Indicator marked "YES"



Project Collision Data

1st Jan 2012 to 31st Dec 2012	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total Collisions	22	9	14	7	8	9	7	20	26	24	14	17	177
Property Damage	20	8	11	6	8	9	7	16	20	22	14	16	157
Personal Injury	2	1	3	1	0	0	0	4	6	2	0	1	20
Fatality Collisions	0	0	0	0	0	0	0	0	0	0	0	0	0

1st Jan 2011 to 31st Dec 2011	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total Collisions	15	12	8	4	12	10	5	6	7	4	17	13	113
Property Damage	13	10	6	4	11	9	4	5	7	2	15	13	99
Personal Injury	2	2	2	0	1	1	1	0	0	2	2	0	13
Fatality Collisions	0	0	0	0	0	0	0	1	0	0	0	0	1

1st Jan 2010 to 31st Dec 2010	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total Collisions	10	8	2	13	8	10	7	5	4	9	8	26	110
Property Damage	9	6	2	11	6	10	7	4	2	6	6	22	91
Personal Injury	1	2	0	2	2	0	0	1	2	3	2	4	19
Fatality Collisions	0	0	0	0	0	0	0	0	0	0	0	0	0

I-65 from the 136.0 to the 143.0 mm
Boone County



Project Collision Data

1st Jan 2012 to 31st Dec 2012	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total Collisions	11	5	19	10	9	18	14	17	13	10	7	6	139
Property Damage	10	5	17	9	8	16	12	14	10	9	6	4	120
Personal Injury	1	0	2	1	1	2	2	3	3	1	1	2	19
Fatality Collisions	0	0	0	0	0	0	0	0	0	0	0	0	0

1st Jan 2011 to 31st Dec 2011	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total Collisions	9	9	17	8	15	20	15	10	7	14	12	9	145
Property Damage	9	7	16	8	14	16	9	6	7	12	12	8	124
Personal Injury	0	2	1	0	1	4	6	4	0	2	1	1	22
Fatality Collisions	0	0	0	0	0	0	0	0	0	0	0	0	0

1st Jan 2010 to 31st Dec 2010	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total Collisions	10	13	3	10	18	13	9	17	7	9	12	18	139
Property Damage	9	12	3	8	15	13	8	13	7	9	9	14	120
Personal Injury	1	1	0	2	3	0	1	3	0	0	3	4	18
Fatality Collisions	0	0	0	0	0	0	0	1	0	0	0	0	1

Aries data from the 91 to the 98 mm
Hancock/Marion Counties



Questions?



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